

Figure 1

SEQ ID NO:

6	mouse_E3αII	MASEMEPEVQ	AID-RSLLEC	SAEEIAGRWL	QATDLNREVY	QHLAHCVPKI	49
4	human_E3αII	MASELEPEVQ	AID-RSLLEC	SAEEIAGKWL	QATDLTREYV	QHLAHYVPKI	49
15	mouse_E3αI	MADEEMDGAE	RMDVSPEPPL	APQRPASWWD	QQVDFYTAFL	HHLAQLVPEI	50
2	human_E3αI	MADEEAGGTE	RMEISALPQ	TPQRLASWWD	QQVDFYTAFL	HHLAQLVPEI	50
	Consensus	MA.E.....	..D....L..	.....A..W.	Q..D.....	.HLA..VP.I	50
6	mouse_E3αII	YCRGPNPFPQ	KEDTLAQHIL	LGPMEWYICA	EDPALGFPKL	EQANKPSHLC	99
4	human_E3αII	YCRGPNPFPQ	KEDMLAQHVL	LGPMEWYLCG	EDPAFGFPKL	EQANKPSHLC	99
15	mouse_E3αI	YFAEMDPDLE	KQEEVQMSI	LTPLEWYLFQ	EDPDICLEKL	KHSG-AFQLC	99
2	human_E3αI	YFAEMDPDLE	KQEEVQMSI	FTPLEWYLFQ	EDPDICLEKL	KHSG-AFQLC	99
	Consensus	Y.....P...	K.....Q...	L.P.EWYL.G	EDP.....KL	.....LC	100
6	mouse_E3αII	GRVFKVGEPT	YSCRDCAVDP	TCVLCMECFL	GSIHRRHRYR	MTTSGGGGFC	149
4	human_E3αII	GRVFKVGEPT	YSCRDCAVDP	TCVLCMECFL	GSIHRRHRYR	MTTSGGGGFC	149
15	mouse_E3αI	GKVFKSGETT	YSCRDCAIDP	TCVLCMDCFQ	SSVHKNHRYK	MHTSTGGGFC	149
2	human_E3αI	GRVFKSGETT	YSCRDCAIDP	TCVLCMDCFQ	DSVHKNHRYK	MHTSTGGGFC	149
	Consensus	GRVFK.GE.T	YSCRDCA.DP	TCVLCM.CF.	.S.H..HRY.	M.TS.GGGFC	150
6	mouse_E3αII	DCGDTEAWKE	GPYCQKHKLS	SSEVVEEDP	LVHLSDEVIA	RTYNIFAIME	199
4	human_E3αII	DCGDTEAWKE	GPYCQKHLEL	TSEIEEEDP	LVHLSDEVIA	RTYNIFAIME	199
15	mouse_E3αI	DCGDTEAWKT	GPFCVDHEPG	RAGTTKESLH	-CPLNEEVIA	QARRIFPSVI	198
2	human_E3αI	DCGDTEAWKT	GPFCVNHEPG	RAGTIKENS	-CPLNEEVIV	QARKIFPSVI	198
	Consensus	DCGDTEAWK.	GP.C..HE..	.....E...	...L.E.VIA	....IF....	200
6	mouse_E3αII	RYAVDILTWE	KESELPEDLE	VAEKSDTYYC	MLFNDEVHTY	EQVIYTLQKA	249
4	human_E3αII	RYAVEILTWE	KESELPADLE	MVEKSDTYYC	MLFNDEVHTY	EQVIYTLQKA	249
15	mouse_E3αI	KYIVEMTIWE	EEKELPPPELQ	IREKNERYYC	VLFNDEHHSY	DHVIYSLQRA	248
2	human_E3αI	KYVEMTIWE	EEKELPPPELQ	IREKNERYYC	VLFNDEHHSY	DHVIYSLQRA	248
	Consensus	.Y.VE...WE	.E.ELP..L.	..EK...YYC	.LFNDE.H.Y	..VIY.LQ.A	250
6	mouse_E3αII	VNCTQKEAIG	FATTVDRDGR	RPVRYGDFQY	CDQAKTVIVR	NTSRQTK-PL	298
4	human_E3αII	VNCTQKEAIG	FATTVDRDGR	RSVRYGDFQY	CEQAKSVIVR	NTSRQTK-PL	298
15	mouse_E3αI	LDCELAEAQL	HTTAIDKEGR	RAVKAGVYAT	CQEAKEDIKS	HSENVSQHPL	298
2	human_E3αI	LDCELAEAQL	HTTAIDKEGR	RAVKAGAYAA	CQEAKEDIKS	HSENVSQHPL	298
	Consensus	..C...EA..	..T..D..GR	R.V..G....	C..AK..I..	.....PL	300
6	mouse_E3αII	KVQVMHSSVA	AHQNFGLKAL	SWLGSVIGYS	DGLRRILCQV	GLQEGPDGEN	348
4	human_E3αII	KVQVMHSSIV	AHQNFGLKLL	SWLGSIIIGYS	DGLRRILCQV	GLQEGPDGEN	348
15	mouse_E3αI	HVEVLHSSVM	AHQKFALRLG	SWMNKIMSYS	SDFRQIFCQA	CLVEEPPGSEN	348
2	human_E3αI	HVEVLHSEIM	AHQKFALRLG	SWMNKIMSYS	SDFRQIFCQA	CLREEPDSEN	348
	Consensus	.V.V.HS...	AHQ.F.L.L.	SW...I..YS	...R.I.CQ.	.L.E.PD.EN	350
6	mouse_E3αII	SSLVDRLMLN	DSKLWKGARS	VYHQLFMSSL	LMDLKYKKLF	ALRFAKNYRQ	398
4	human_E3αII	SSLVDRLMLS	DSKLWKGARS	VYHQLFMSSL	LMDLKYKKLF	AVRFAKNYQQ	398
15	mouse_E3αI	PCLISRLMLW	DAKLYKGARK	ILHELIFSSF	FMEMEYKKLF	AMEFVKYYKQ	398
2	human_E3αI	PCLISRLMLW	DAKLYKGARK	ILHELIFSSF	FMEMEYKKLF	AMEFVKYYKQ	398
	Consensus	..L..RLML.	D.KL.KGAR.	..H.L..SS.	.M...YKKLF	A..F.K.Y.Q	400
6	mouse_E3αII	LQRDFMEDDH	ERAVSVTALS	VQFFTAPTALA	RMLLTEENLM	TVIIKAFMDH	448
4	human_E3αII	LQRDFMEDDH	ERAVSVTALS	VQFFTAPTALA	RMLITEENLM	SIIIKTFMDH	448
15	mouse_E3αI	LQKEYISDDH	ERSISITALS	VQMLTVPTLA	RHLIEEQNVI	SVITETLLEV	448
2	human_E3αI	LQKEYISDDH	DRSISITALS	VQMFTVPTLA	RHLIEEQNVI	SVITETLLEV	448
	Consensus	LQ.....DDH	ER..S.TALS	VQ.FT.PTLA	R.LI.E.N..	SVI..T...	450

Figure 1 (continued)

SEQ ID NO:

6	mouse_E3αII	LKHRDAQGRF	QFERYTALQA	FKFRRVQSLI	LDLKYVLISK	PTEWSDELRO	498
4	human_E3αII	LRHRDAQGRF	QFERYTALQA	FKFRRVQSLI	LDLKYVLISK	PTEWSDELRO	498
15	mouse_E3αI	LPEYLDNRN-	KFN-FQGYSQ	DKLGRVYAVI	CDLKYILISK	PVIWTERLRA	496
2	human_E3αI	LPEYLDNRN-	KFN-FQGYSQ	DKLGRVYAVI	CDLKYILISK	PTIWTERLRM	496
	Consensus	L.....	.F.....	.K..RV...I	.DLKY.LISK	PT.W...LR.	500
6	mouse_E3αII	KFLQGFDAFL	ELLKCMQGM	PITRQVGQHI	EMEPWEAAAF	TLQMKLTHVI	548
4	human_E3αII	KFLEGFDAFL	ELLKCMQGM	PITRQVGQHI	EMEPWEAAAF	TLQMKLTHVI	548
15	mouse_E3αI	QFLEGFRSFL	KILTCMQGME	EIRRQVGQHI	EVDPDWEEAI	AIQMQLKNIL	546
2	human_E3αI	QFLEGFRSFL	KILTCMQGME	EIRRQVGQHI	EVDPDWEEAI	AIQMQLKNIL	546
	Consensus	.FLEGF..FL	..L.CMQGM.	.I.RQVGQHI	E..P.WEAA.	..QM.L....	550
6	mouse_E3αII	SMVQDWCALD	EKVLIEAYKK	CLAVLTQCHG	GFTDGEQPIT	LSICGHSVET	598
4	human_E3αII	SMMQDWCASD	EKVLIEAYKK	CLAVLMQCHG	GYTDGEQPIT	LSICGHSVET	598
15	mouse_E3αI	LMFQEWCACD	EDLLLVAYKE	CHKAVMRCST	NFMSSTKTIV	VQLCGHSLET	595
2	human_E3αI	LMFQEWCACD	EELLLVAYKE	CHKAVMRCST	SFISSSKTIV	VQSCGHSLET	595
	Consensus	:M.Q.WCA.D	E..L..AYK.	C....M.C..	.F.....	...CGHS.ET	600
6	mouse_E3αII	IRYCVSQEKV	SIHLPISRLL	AGLHVLLSKS	EVAYKFPPELL	PLSELSPMML	648
4	human_E3αII	IYCVSQEKV	SIHLPVSRL	AGLHVLLSKS	EVAYKFPPELL	PLSELSPMML	648
15	mouse_E3αI	KSYKVSIEDLV	SIHLPLSRTL	AGLHVRLSRL	GAISRLHEFV	PFDSFQVEVL	645
2	human_E3αI	KSYRVSEDLV	SIHLPLSRTL	AGLHVRLSRL	GAVSRLHEFV	SFEDFQVEVL	645
	Consensus	..Y.VS...V	SIHLP..SR.L	AGLHV..LS..	.....E..	P.....L	650
6	mouse_E3αII	IEHPLRCLVL	CAQVHAGMWR	RNGFSLVNQI	YYYHNVKCR	EMFDKDIVML	698
4	human_E3αII	IEHPLRCLVL	CAQVHAGMWR	RNGFSLVNQI	YYYHNVKCR	EMFDKDVVML	698
15	mouse_E3αI	VEYPLRCLVL	VAQVVAEMWR	RNGLSLISQV	FYYQDVKCRE	EMYDKDIIML	695
2	human_E3αI	VEYPLRCLVL	VAQVVAEMWR	RNGLSLISQV	FYYQDVKCRE	EMYDKDIIML	695
	Consensus	.E..PLRCLVL	.AQV..A.MWR	RNG..SL..Q.	.YY..VKCR.	EM..DKDI..ML	700
6	mouse_E3αII	QTGVSMMDPN	HFLMIMLSRF	ELYQLFSTPD	YGKRFSSEVT	HKDVVQQNNT	748
4	human_E3αII	QTGVSMMDPN	HFLMIMLSRF	ELYQIFSTPD	YGKRFSSEIT	HKDVVQQNNT	748
15	mouse_E3αI	QIGASIMDPN	KFLLLVLQRY	EL-----TDA	FNKTIST--K	DQDLIKQYNT	738
2	human_E3αI	QIGASIMDPN	KFLLLVLQRY	EL-----AEA	FNKTIST--K	DQDLIKQYNT	738
	Consensus	Q.G.S.MDPN	.FL...L.R.	EL.....T..	..K..S....	..D...Q.NT	750
6	mouse_E3αII	LIEEMLYLII	MLVGERFNP	VGQVAATDEI	KREIIHQLSI	KPMAHSELVK	798
4	human_E3αII	LIEEMLYLII	MLVGERFSP	VGQVNATDEI	KREIIHQLSI	KPMAHSELVK	798
15	mouse_E3αI	LIEEMLQVLI	YIVGERYVPG	VGNVTREEVI	MREITHLLCI	EPMPHSAIAR	788
2	human_E3αI	LIEEMLQVLI	YIVGERYVPG	VGNVTKEEVT	MREIIHLLCI	EPMPHSAIAK	788
	Consensus	LIEEML...I	..VGER..PG	VG.V.....I	.REIIH.L.I	.PM.HS...K	800
6	mouse_E3αII	SLPEDENKET	GMESVIESVA	HFKKPGLTGR	GMVELKPECA	KEFNLYFYHF	848
4	human_E3αII	SLPEDENKET	GMESVIEAVA	HFKKPGLTGR	GMVELKPECA	KEFNLYFYHF	848
15	mouse_E3αI	NLPENENNET	GLENVINKVA	TFKKPGVSGH	GVYELKDESL	KDFNMYFYHY	838
2	human_E3αI	NLPENENNET	GLENVINKVA	TFKKPGVSGH	GVYELKDESL	KDFNMYFYHY	838
	Consensus	.LPE.EN.ET	G.E.VI..VA	.FKKPG..G.	G.YELK.E..	K.FN.YFYH.	850
6	mouse_E3αII	SRAEQSKAEE	AQRKLRKREN	EDTALPPP	PPFCPLFASL	VNQLQCDVML	898
4	human_E3αII	SRAEQSKAEE	AQRKLRKQNR	EDTALPPP	PPFCPLFASL	VNQLQSDVML	898
15	mouse_E3αI	SKTQHSKAEH	MQKKRRKQEN	KDEALPPPPP	PEFCPAFSKV	VNLLSCDVM	888
2	human_E3αI	SKTQHSKAEH	MQKKRRKQEN	KDEALPPPPP	PEFCPAFSKV	INLLNCDIMM	888
	Consensus	S....SKAE.	.Q.K...Q..	.D.ALPPP..	P.FCP.F...	VN..L.CDVM.	900

Figure 1 (continued)

SEQ ID NO:

6	mouse_E3αII	YIMGTILQWA	VEHHGSAWSE	SMLQRVLHLI	GMALQEEKHH	LENAVEGHVQ	948
4	human_E3αII	CIMGTILQWA	VEHNGYAWSE	SMLQRVLHLI	GMALQEEKQH	LENVTEEHVV	948
15	mouse_E3αI	YILRTIFERA	VDTESNLWTE	GMLQMAFHIL	ALGLLEEKQQ	LQKAPEEEV-	937
2	human_E3αI	YILRTVFERA	IDTDSNLWTE	GMLQMAFHIL	ALGLLEEKQQ	LQKAPEEEV-	937
	Consensus	YI..TI...A	V.....W.E	.MLQ...H..	...L.EEKQ.	L..A.EE.V.	950
6	mouse_E3αII	TFTFTQKISK	PGDAPHNSPS	ILAMLETLQN	APSLEAHKDM	IRWLLKMFNA	998
4	human_E3αII	TFTFTQKISK	PGEAPKNPS	ILAMLETLQN	APYLEVHKDM	IRWILKTFNA	998
15	mouse_E3αI	AFDFYHKASR	LGSSAMNAQN	IQMLLERLKG	IPQLEGQKDM	ITWILQMFDT	987
2	human_E3αI	TFDFYHKASR	LGSSAMNIQM	L---LEKLKG	IPQLEGQKDM	ITWILQMFDT	984
	Consensus	TF.F..K.S.	.G.....N...	I...LE.L..	.P.LE..KDM	I.WIL.MF..	1000
6	mouse_E3αII	IKKIRE--CS	SSSPVAEAE	TIMEESSRDK	DKAERKRKAE	IARLRREKIM	1046
4	human_E3αI	VKKMRE--SS	PTSPVAETEG	TIMEESSRDK	DKAERKRKAE	IARLRREKIM	1046
15	mouse_E3αI	VKRLREKSCL	VVATTSGLEC	IKSEEITHDK	EKAERKRKAE	AARLHRQKIM	1037
2	human_E3αI	VKRLREKSCL	IVATTSGSES	IKNDEITHDK	EKAERKRKAE	AARLHRQKIM	1034
	Consensus	VK..RE..C.	.....E.	...EE...DK	.KAERKRKAE	.ARL.R.KIM	1050
6	mouse_E3αII	AQMSEMQRHF	IDENKELFQQ	TLELDTSASA	TL--DSSPPV	SDAALTALGP	1094
4	human_E3αII	AQMSEMQRHF	IDENKELFQQ	TLELDASTSA	VL--DHSPVA	SDMTLTALGP	1094
15	mouse_E3αI	AQMSALQKNF	IETHKLMYDN	TSEVTGKEDS	IMEEESTSAV	SEASRIALGP	1087
2	human_E3αI	AQMSALQKNF	IETHKLMYDN	TSEMPGKEDS	IMEEESTPAV	SDYSRIALGP	1084
	Consensus	AQMS..Q..F	I...K.....	T.E.....	.....S.P.V	SD....ALGP	1100
6	mouse_E3αII	AQTQVPEPRQ	FVTCILCQEE	QEVFVGSRAM	VLAASFVQRST	VLSKDRTKTI	1144
4	human_E3αII	TQTQVPEQRQ	FVTCILCQEE	QEVKVESRAM	VLAASFVQRST	VLSKNRSKFI	1144
15	mouse_E3αI	KRGPAVTEKE	VLTCILCQEE	QEVKLENNAM	VLSACVQKST	ALTQHRGKPV	1137
2	human_E3α	KRGPSVTEKE	VLTCILCQEE	QEVKIENNAM	VLSACVQKST	ALTQHRGKPI	1134
	Consensus	.....	..TCILCQEE	QEVK.E..AM	VL.A.VQ.ST	.L...R.K.I	1150
6	mouse_E3αII	AD-PEKYDPL	FMHPDLSCGT	HTGSCGHVMH	AHCWQRYFDS	VQAKEQRRQQ	1193
4	human_E3αII	QD-PEKYDPL	FMHPDLSCGT	HTS3CGHIMH	AHCWQRYFDS	VQAKEQRRQQ	1193
15	mouse_E3αI	DHLGETLDPL	FMDPDLAHGT	YTGSCGHVMH	AVCWQKYFEA	VQ---LSSQQ	1184
2	human_E3αI	ELSGEALDPL	FMDPDLAYGT	YTGSCGHVMH	AVCWQKYFEA	VQ---LSSQQ	1181
	Consensus	....E..DPL	FM.PDL..GT	.TGSCGHVMH	A.CWQ.YF..	VQ.....QQ	1200
6	mouse_E3αII	RLRLHTSYDV	ENGEFLCPLC	ECLSN TVIPL	L-LPPRSILS	RRLN-FSDQP	1241
4	human_E3αII	RLRLHTSYDV	ENGEFLCPLC	ECLSN TVIPL	L-LPPRNIFN	NRLN-FSDQP	1241
15	mouse_E3αI	RIHVDL-FDL	ESGEYLCPLC	KSLCNTVIPI	IPLQPQKINS	ENAEALAQLL	1233
2	human_E3αI	RIHVDL-FDL	ESGEYLCPLC	KSLCNTVIPI	IPLQPQKINS	ENADALAQLL	1230
	Consensus	R.....D.	E.GE.LCPLC	..L.NTVIP.	..L.P..I.S	.....	1250
6	mouse_E3αII	DLAQWTRAVT	QQIKVVQMLR	RKHNAADTS	SSEDTEAMNI	IPIPEGFRPD	1290
4	human_E3αII	NLTQWIRTIS	QQIKALQFLR	KEESTP-NNA	STKNSENVDE	LQLPEGFRPD	1290
15	mouse_E3αI	TLARWIQTVL	ARISGYNIKH	AKGEAPAVPV	LFNQGMGDST	FEFHSILSFG	1283
2	human_E3αI	TLARWIQTVL	ARISGYNIRH	AKGENP-IPI	FFNQGMGDST	LEFHSILSFG	1279
	Consensus	.LA.WI.TV.	..I.....	.K...P-...	.....	.....	1300
6	mouse_E3αII	FYPRNPYSDS	IKEMLTTFGT	AAYKVGLKVH	PNEGDPRVPI	LCWGTCAyti	1340
4	human_E3αII	FRPKIPYSES	IKEMLTTFGT	ATYKVGLKVH	PNEEDPRVPI	MCWGSCAYTI	1340
15	mouse_E3αI	VQSSVKYSNS	IKEMVILFAT	TIYRIGLKVP	PDELDP RVPM	MTWSTCAFTI	1333
2	human_E3αI	VESSIYKYSNS	IKEMVILFAT	TIYRIGLKVP	PDERDP RVPM	LTWSTCAFTI	1329
	Consensus	.....YS.S	IKEM...F.T	..Y..GLKV.	P.E.DPRVP.	..W.TCA.TI	1350

Figure 1 (continued)

SEQ ID NO:

6	mouse_E3αII	QSIERILSDE	EKPVFGPLPC	RLDDCLRSLT	RFAAAHWTVA	LLPVVQGHFC	1390
4	human_E3αII	QSIERILSDE	DKPLFGPLPC	RLDDCLRSLT	RFAAAHWTVA	SVSVVQGHFC	1390
15	mouse_E3αI	QAIENLLGDE	GKPLFGALQN	RQHSGLKALM	QFAVAQRATC	PQVLIHKHLA	1383
2	human_E3αI	QAIENLLGDE	GKPLFGALQN	RQHNGLKALM	QFAVAQRITC	PQVLIQKHLV	1379
	Consensus	Q.IE..L.DE	.KPLFG.L..	R....L..L.	.FA.A.....	.....Q.H..	1400
6	mouse_E3αII	KLFASLVPSD	SYEDLPCILD	IDMFHLLVGL	VLAFFPALQCQ	D---FSGSSL	1437
4	human_E3αII	KLFASLVPSD	SHEELPCILD	IDMFHLLVGL	VLAFFPALQCQ	D---FSGISL	1437
15	mouse_E3αI	RLLSVILPNL	QSENTPGLLS	VDLFHVLVGA	VLAFFPSLYWD	DTVLDQPSPL	1433
2	human_E3αI	RLLSVVLPNI	KSEDTPCLLS	IDLFHVLVGA	VLAFFPSLYWD	DPVDLQPSV	1429
	Consensus	.L.....PN.	..E..PC.L.	ID.FH.LVG.	VLAFF.L...	D.....SSL	1450
6	mouse_E3αII	ATG--DLHIF	HLVTMAHIVQ	ILLTSCTEEN	---GMDQENP	TGEEELAILS	1482
4	human_E3αII	GTG--DLHIF	HLVTMAHIIQ	ILLTSCTEEN	---GMDQENP	PCEESAVLA	1482
15	mouse_E3αI	SSSYNHLYLF	HLITMAHMLQ	ILLTTDTDL	PGPPLAEGEE	DSEEARCASA	1483
2	human_E3αI	SSSYNHLYLF	HLITMAHMLQ	ILLTVDTGL	---PLAQVQE	DSEEAHSASS	1475
	Consensus	.....L..F	HL.TMAH..Q	ILLT..T...	---...Q...	..EE.....	1500
6	mouse_E3αII	LHKTTLHQYT	SALKEAPSGW	HLWRSVRAAI	MPFLKCSALF	FHYLNGVPAP	1532
4	human_E3αII	LYKTTLHQYT	SALKEIPSGW	HLWRSVRAGI	MPFLKCSALF	FHYLNGVPSP	1532
15	mouse_E3αI	FFVEVSQHTD	GLTGCGAPGW	YLWLSLRNGI	TPYLRCAALL	FHYLLGVAPP	1533
2	human_E3αI	FFAEISQYTS	GSIGCDIPGW	YLWVSLKNGI	TPYLRCAALF	FHYLLGVTPP	1525
	Consensus	.....QYT.	.....GW	.LW.S.R.GI	.P.L.C.ALF	FHYL.GV..P	1550
6	mouse_E3αII	PDLQV-SGTS	HFEHLCNYLS	LPTNLIHLFQ	ENSDIMNSLI	ESWCQNSEVK	1581
4	human_E3αII	PDIQV-PGTS	HFEHLCSYLS	LPNNLICLFQ	ENSEIMNSLI	ESWCRNSEVK	1581
15	mouse_E3αI	EELFANS AEG	EFSALCSYLS	LPTNFLLLFQ	EYWDTIRPLL	QRWCGDPALL	1583
2	human_E3αI	EELHTNS AEG	EYSALCSYLS	LPTNFLLLFQ	EYWDTVRPLL	QRWCADPALL	1575
	Consensus	..L...S...	.F..LCSYLS	LPTNL..LFQ	E..D....L.	..WC.....	1600
6	mouse_E3αII	RYLNGERGAI	SYPRGANKLI	DLPEDYSSLI	NQASNFSCPK	SGGDKSRAPT	1631
4	human_E3αII	RYLEGERDAI	RYPRESNKL	NLPEDYSSLI	NQASNFSCPK	SGGDKSRAPT	1631
15	mouse_E3αI	KSLKQKSAVV	RYPRKRNSLI	ELPEDYSCLL	NQASHFRCPR	SADDERKHPV	1633
2	human_E3αI	NCLKQKNTVV	RYPRKRNSLI	ELPDDYSCLL	NQASHFRCPR	SADDERKHPV	1625
	Consensus	..L.....	RYPR..N.LI	.LPEDYS.L.	NQAS.F.CP.	S..D....P.	1650
6	mouse_E3αII	LCLVCGSLLC	SQSYCCQ AEL	EGEDVGACTA	HTYSCGSGAG	IFLRVRECQV	1681
4	human_E3αII	LCLVCGSLLC	SQSYCCQ TEL	EGEDVGACTA	HTYSCGSGVG	IFLRVRECQV	1681
15	mouse_E3αI	LCLFCGAILC	SQNICCQEIV	NGEEVGACVF	HALHCGAGVC	IFLKIRECRV	1683
2	human_E3αI	LCLFCGAILC	SQNICCQEIV	NGEEVGACIF	HALHCGAGVC	IFLKIRECRV	1675
	Consensus	LCL.CG..LC	SQ..CCQ...	.GE.VGAC..	H...CG.GV.	IFL..REC.V	1700
6	mouse_E3αII	LFLAGKTKGC	FYSPPYLDDY	GETDQGLRRG	NPLHLCQERF	RKIQKLWQQH	1731
4	human_E3αII	LFLAGKTKGC	FYSPPYLDDY	GETDQGLRRG	NPLHLCKERF	KKIQKLWHQH	1731
15	mouse_E3αI	VLVEGKARGC	AYPAPYLDEY	GETDPGLKRG	NPLHLSRERY	RKLHLVWQQH	1733
2	human_E3αI	VLVEGKARGC	AYPAPYLDEY	GETDPGLKRG	NPLHLSRERY	RKLHLVWQQH	1725
	Consensus	....GK..GC	.Y..PYLD.Y	GETD.GL.RG	NPLHL..ER.	RK....WQQH	1750
6	mouse_E3αII	SITEEIGHAQ	EANQTLVGID	WQHL			1755
4	human_E3αII	SVTEEIGHAQ	EANQTLVGID	WQHL			1755
15	mouse_E3αI	CIIEEIARSQ	ETNQMLFGFN	WQLL			1757
2	human_E3αI	CIIEEIARSQ	ETNQMLFGFN	WQLL			1749
	Consensus	.I.EEI...Q	E.NQ.L.G..	WQ.L			1774

Figure 2
The Expression Profile of huE3 α -II in Human Tissues

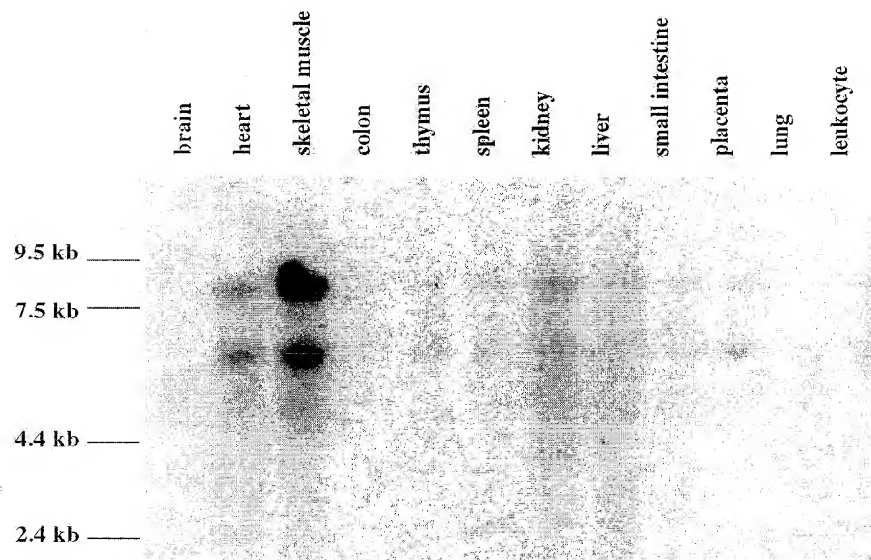


Figure 3
The Expression Profile of huE3 α -I in Human Tissues

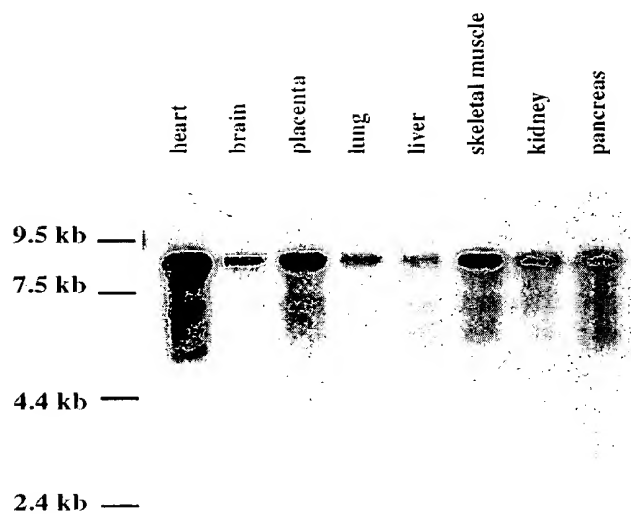


Figure 4- Ubiquitination of Endogenous Proteins

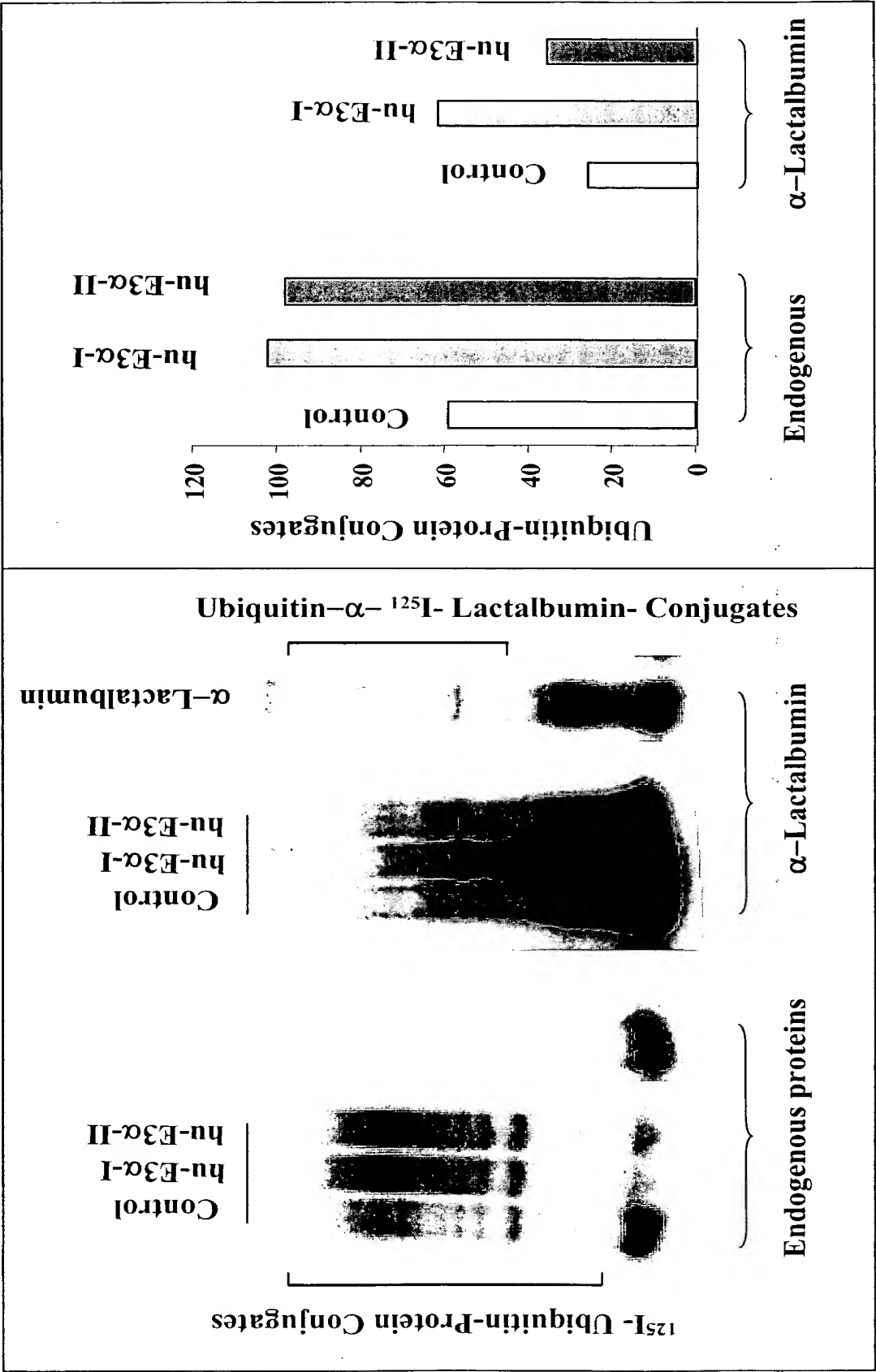


Figure 5

Transfection of Human E3a-I or E3a-II cDNA Stimulates Ubiquitin Conjugation in Cultured Muscle Cell Lines

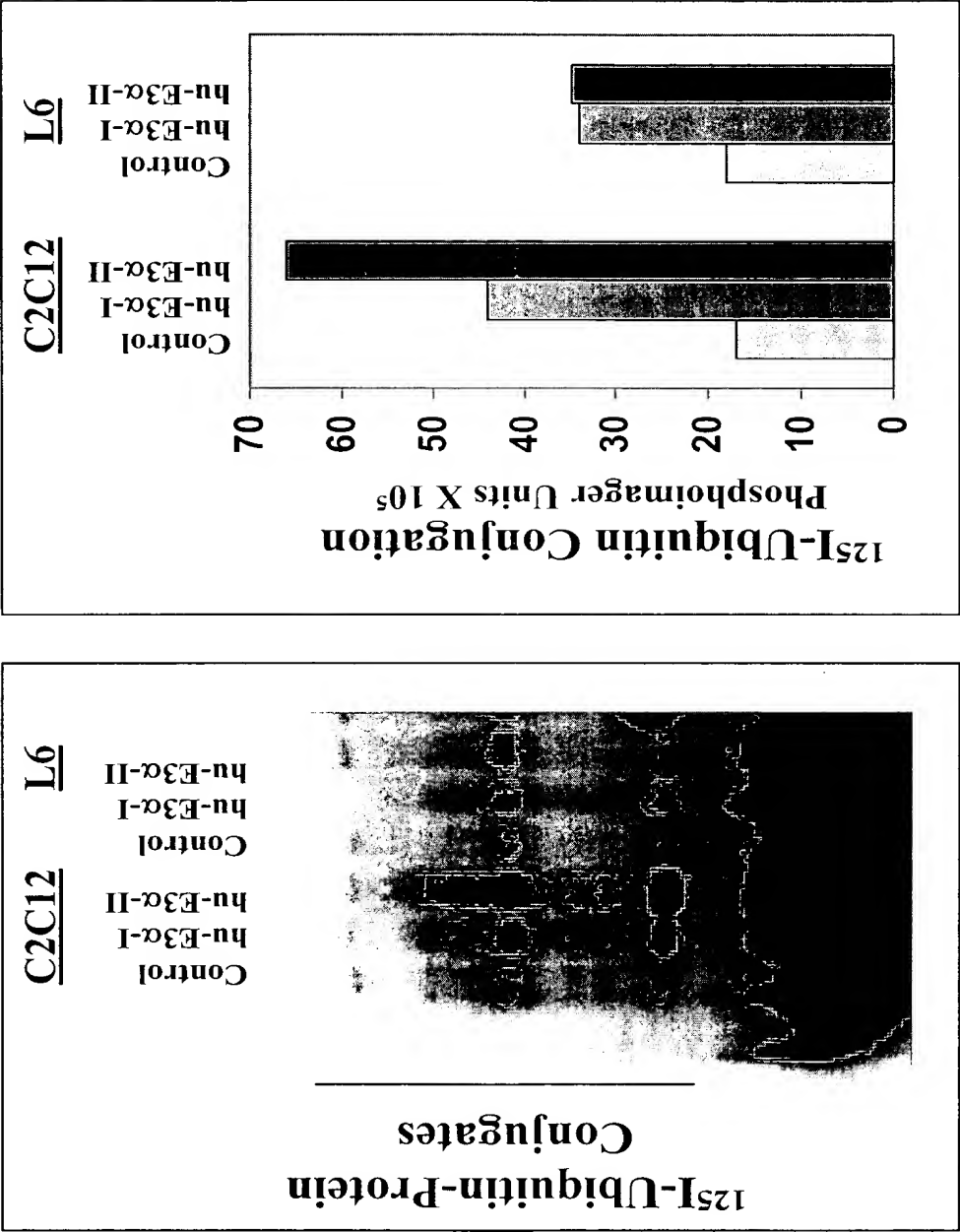
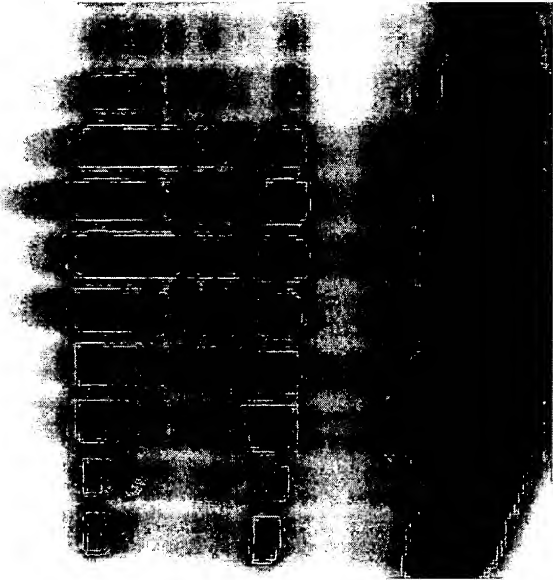


Figure 6

¹²⁵I-Ubiquitin Conjugation to Muscle Proteins and Its Sensitivity to E3 α Inhibitor in Skeletal Muscle Extracts

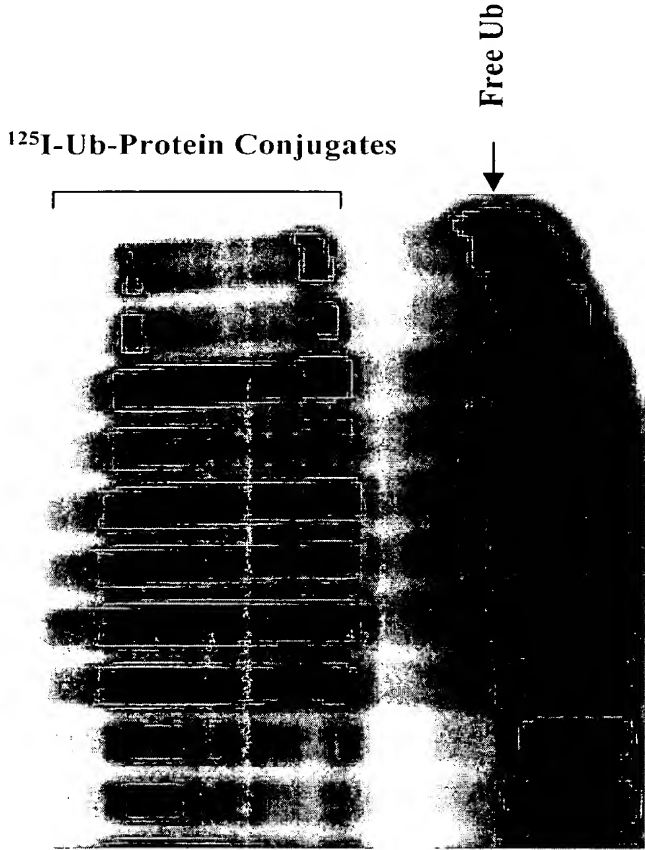
Contro v.s. 3-day tumor-bearing



Control	Tumor-3D	Control	Tumor-3D	Control	Tumor-3D
0'	10'	20'	20'	20'	20'
+Ala ME +Arg ME					

Reaction Time (min)

Contro v.s. 5-day tumor-bearing



Control	Tumor-5D	Control	Tumor-5D	Control	Tumor-5D
0'	10'	20'	20'	20'	20'
+Ala ME +Arg ME					

Reaction Time (min)

Figure 7

Rates of Ubiquitination of N-end Rule Substrate α -Lactalbumin in Skeletal Muscle Extracts

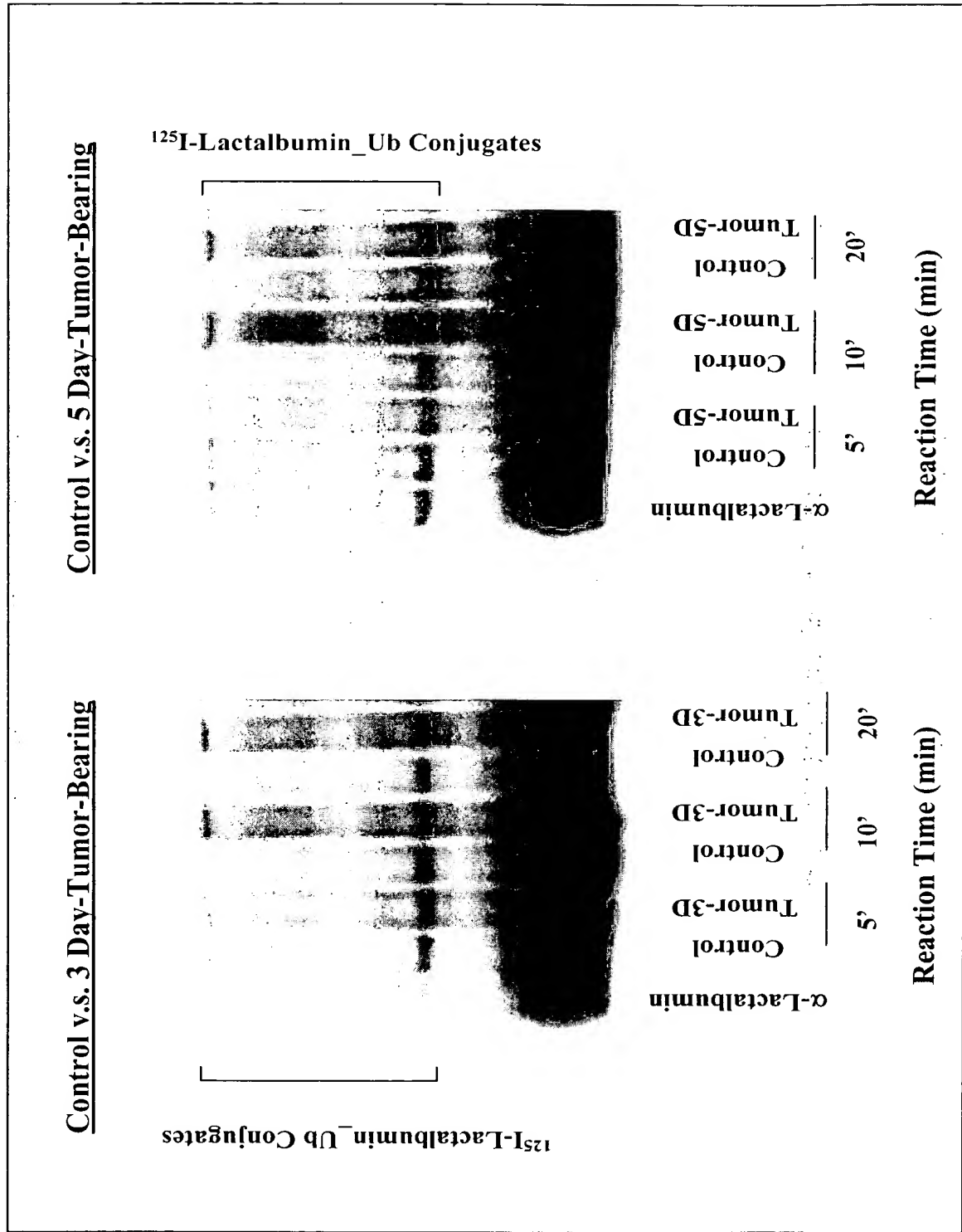


Figure 8

Northern blot analysis of E3 α -I & E3 α -II expression
in gastrocnemius muscles in YAH-130 experimental cachexia model

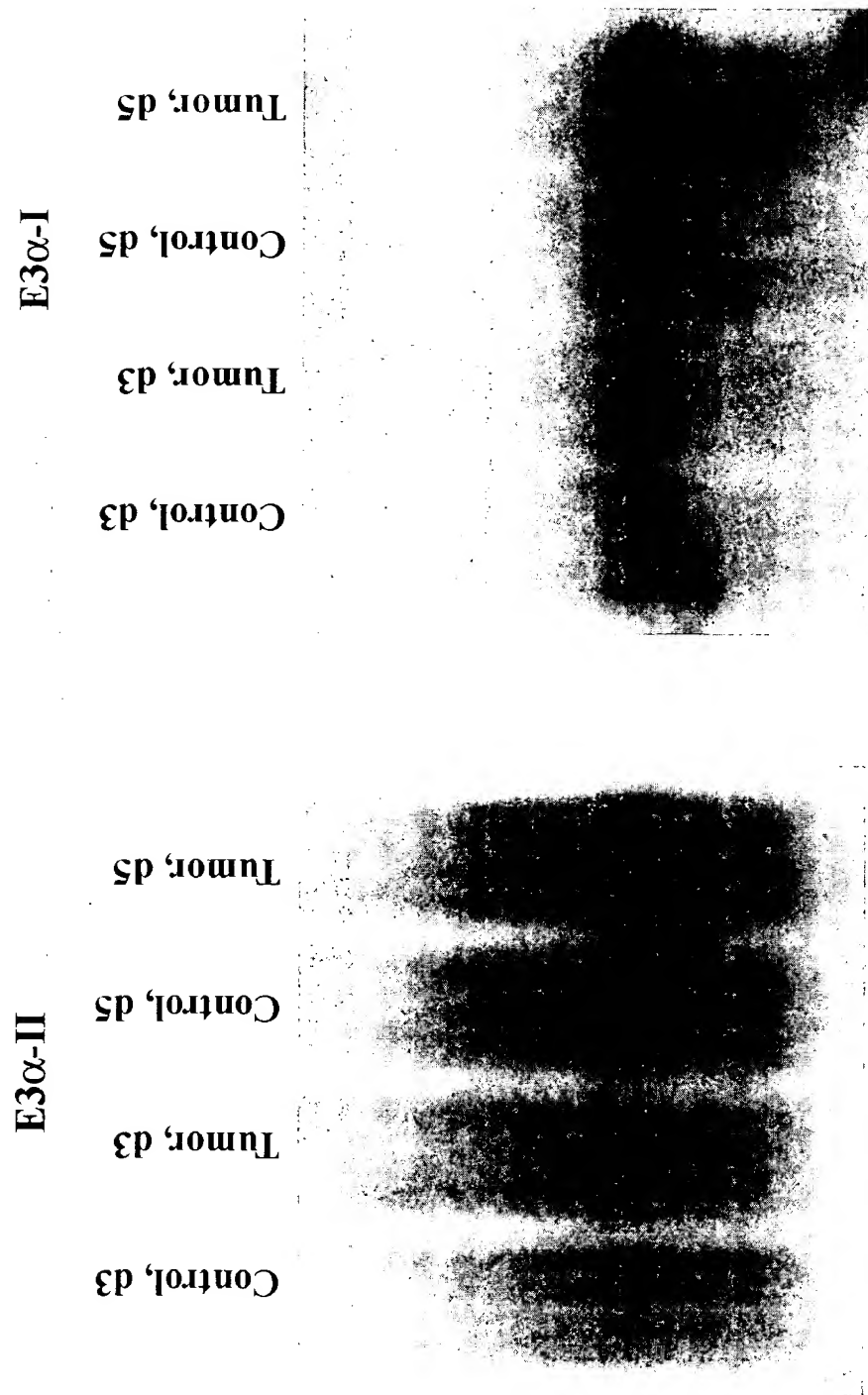
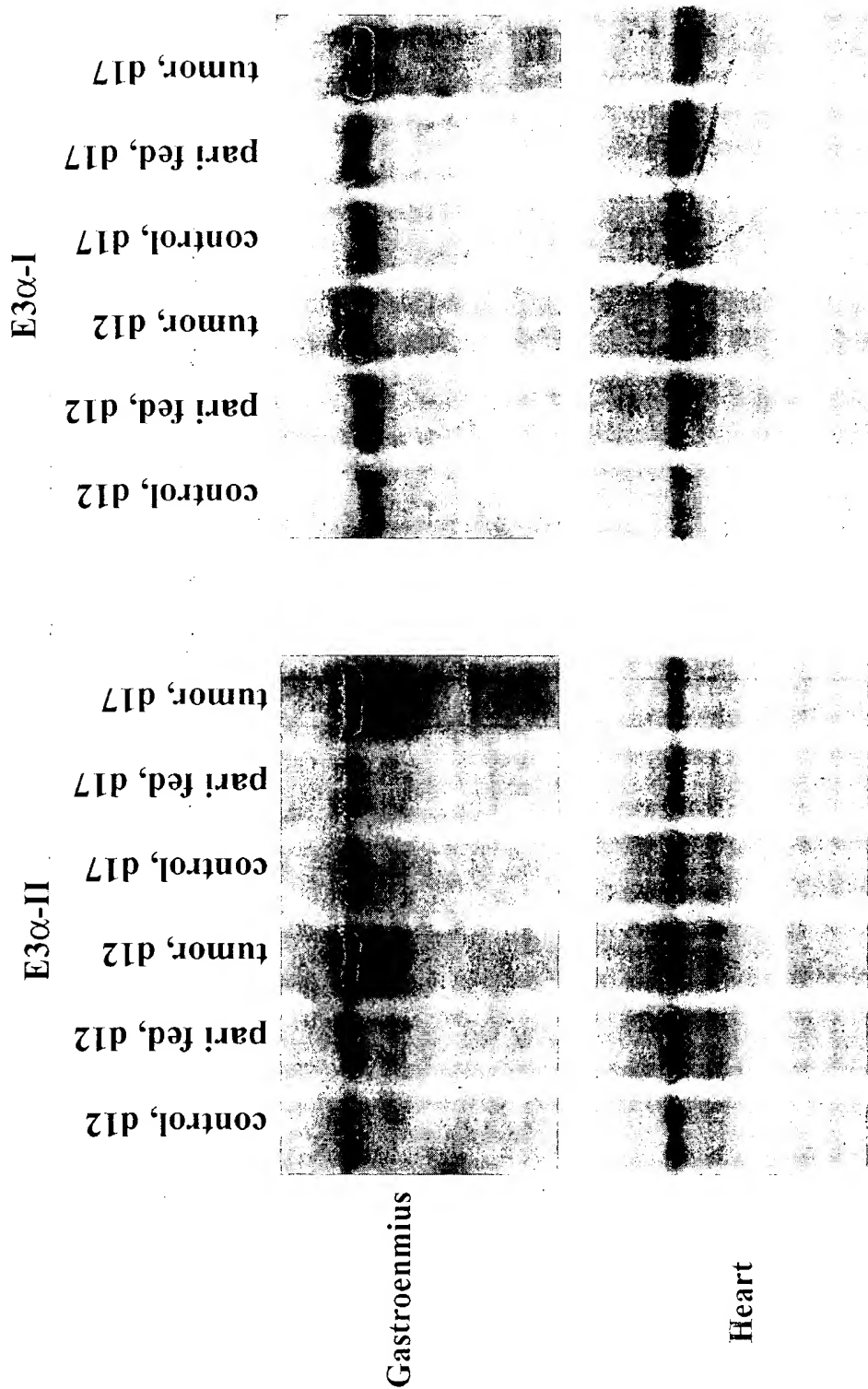


Figure 9

Northern blot analysis of E3 α -I and E3 α -II expression in gastrocnemius muscle and cardiac muscle in C26 experimental cachexia model



Gastroenmius

Heart

Figure 10

Proinflammatory cytokines TNF- α and IL-6 induce E3 α -II Expression in C2C12 myotube culture

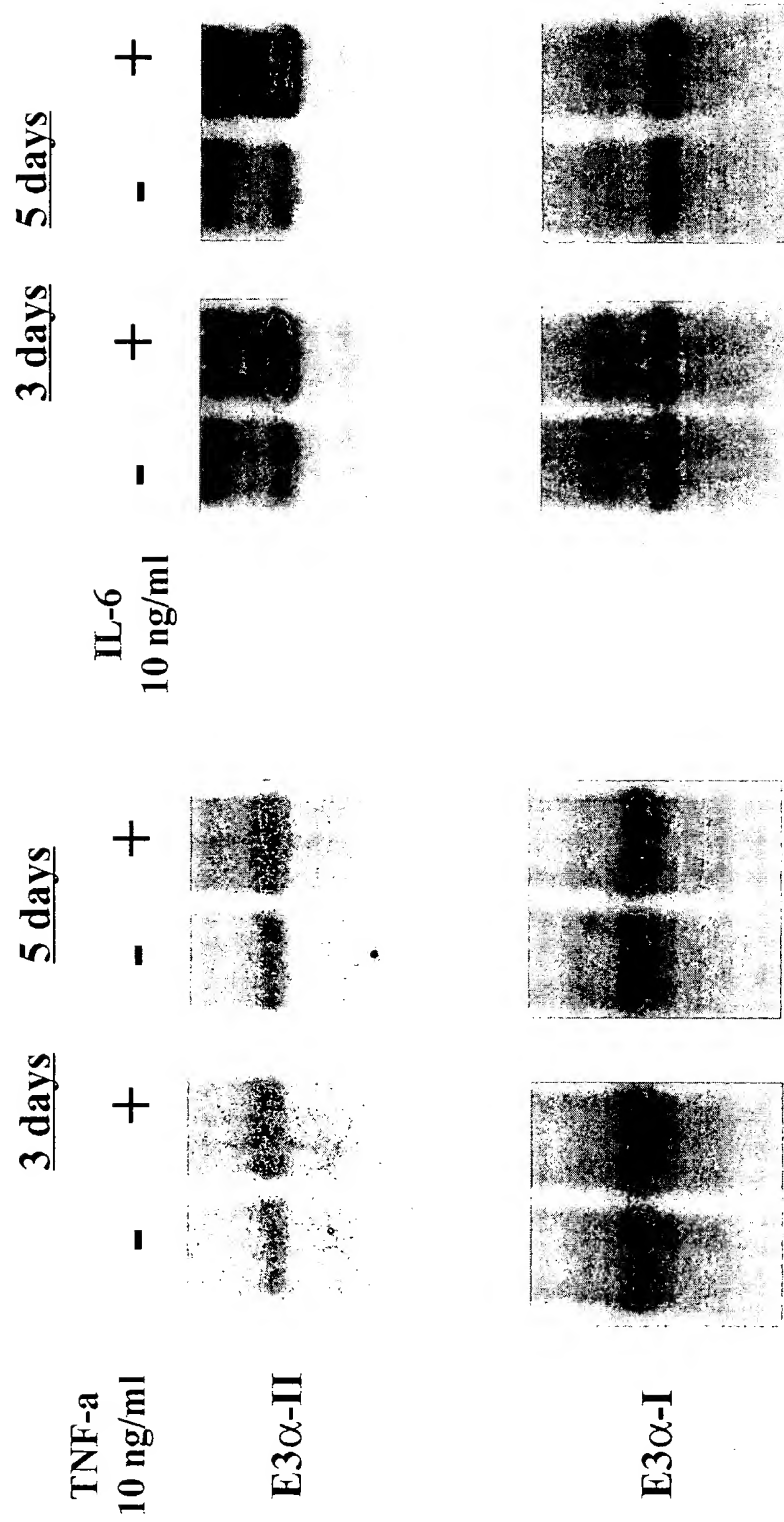


Figure 11

IL-6 Elicits Accelerated Ubiquitination in C2C12 Myotube Cultures

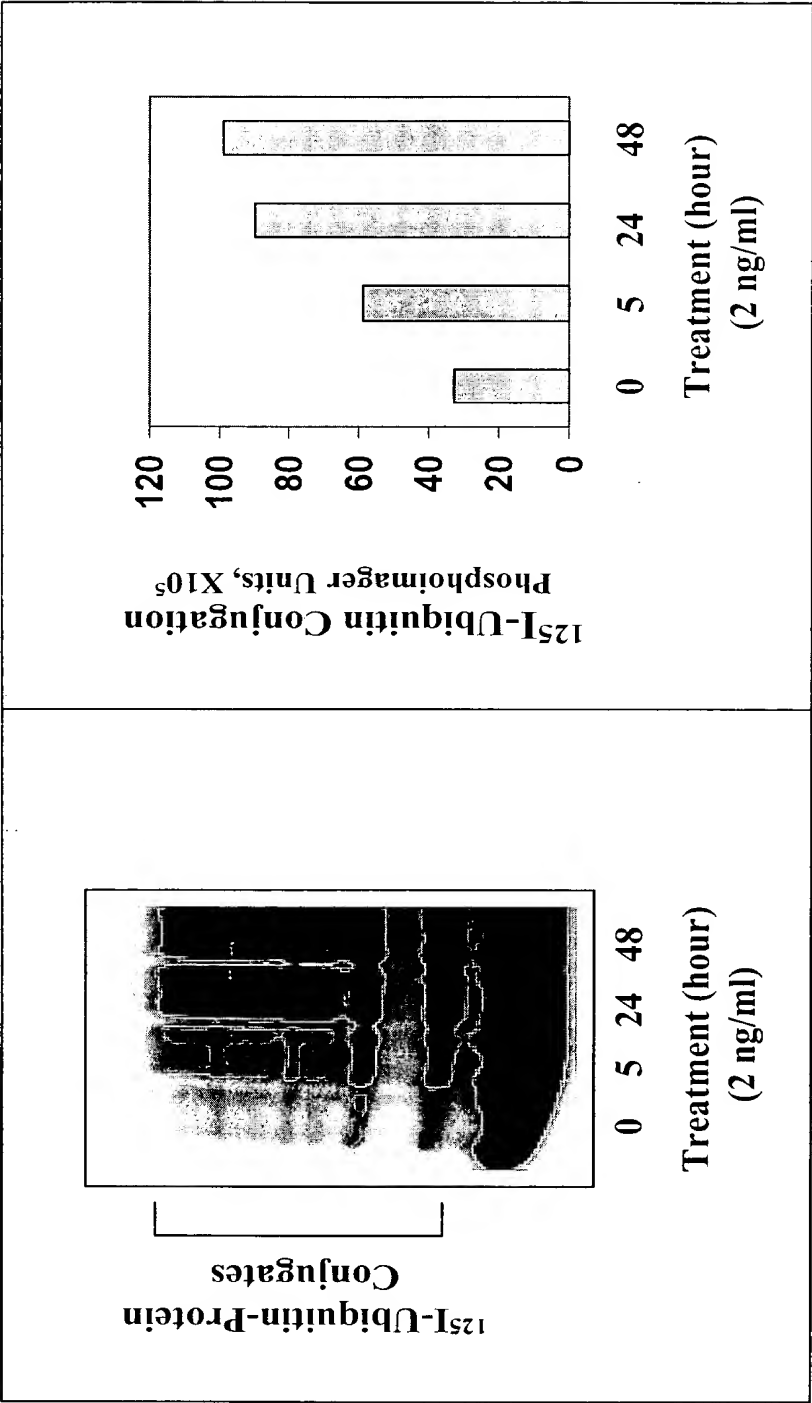


Figure 12

TNF α Elicits Accelerated Ubiquitination in C2C12 Myotube Cultures

